Gateway

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The ARRL Packet-Radio Newsletter

JAS-1 OPERATION TERMINATED

The operation of Amateur Radio satellite JAS-1/FUJI-OSCAR 12 was terminated on November 5 because of low power generation. During the three-year operation of the satellite, its power generation has decreased with time and, at present, its average power generation is less than 3 watts.

The Japanese Amateur Radio League reported, "It is our great pleasure to realize that we were able to provide chances of satellite communication, especially the flying BBS, and, taking this opportunity, we thank all satellite enthusiasts for having contacted the bird. Now we are preparing the next bird, JAS-1b, as the successor of FO-12, which has the same mission configuration as that of FO-12 except for its orbit. Please look forward to its launch in February 1990."

ARRL RECEIVES FEMA GRANT FOR HF MODEM DEVELOPMENT

The ARRL recently received a $10,000 grant from the Federal Emergency Management Agency (FEMA) for HF packet-radio modem and protocol development over the next two years. The ARRL will use the grant to fund out-of-pocket costs (excluding labor or overhead) for volunteer participants in the development program. (FEMA has a special interest in effective communications between FEMA representatives and Amateur Radio operators at the onset of natural disasters.)

Existing packet-radio hardware and software operate effectively above 30 MHz. At HF (3 to 30 MHz), however, reception of packets is often poor because of fading and interference. The purpose of the FEMA grant is to encourage development of techniques to improve the reliability of HF packet-radio reception. The ARRL has identified several areas for research to improve reliability and reduce retransmissions: modems, protocols, diversity reception and network management techniques.

Designers or design teams wishing to participate in this program are invited to contact Lori Weinberg at ARRL headquarters. Mail a resume of each person in the team giving qualifications in the above areas of research and a brief description of the design approach (not to exceed three pages, double-spaced). Formal proposals are not sought at this time, but will be requested in the near future.

UoSAT-D PCE PLANS ANNOUNCED

The UoSAT-D PACSAT Communications Experiment (PCE) will be an open-access Amateur Radio store-and-forward system (UoSAT-D is scheduled for launch in January along with a second UoSAT and four AMSAT MicroSats). Although there will certainly be some gateway stations (since they are efficient and cost-effective), any properly equipped amateur station will be able to use the PCE.

A ground station for the PCE must have a G3RUH-compatible, 9600-bit/sec PSK modem. This modem should be connected to a Mode-J satellite station: 145.975-MHz uplink and 435.070-MHz downlink. This modem and RF equipment must be connected to a TNC. Ground station antenna and RF power requirements should be modest; final satellite receiver sensitivity and antenna pattern measurements are now under way at University of Surrey.

To access the PCE PBBS, you will need special software running on your ground station computer. The PACSAT Ground Station Software will communicate with the PCE over your AX.25 TNC using high-level protocols currently under development by Jeff Ward, GØ/K8KA, and Harold Price, NK6K. This system, ie, requiring you to connect your TNC to a host program and not to a terminal emulator, will provide a powerful electronic mail service that eliminates many of the frustrations experienced by users of the existing ground-based PBBS network. (The standard PACSAT protocols will also be implemented on the AMSAT-NA Microsats, although not using 9600-bit/sec PSK modulation.)

Full details of the PACSAT protocols will be published as soon as they are available. (A Broadcast Protocol specification, for transmission of bulletins, etc, has already been published in the proceedings of DATASPACE '89.) When published, the protocol specifications will allow software authors to begin implementing the PACSAT Ground Station Software for different computers. It is also likely that a PACSAT Ground Station Software implementation for IBM-PC compatible computers will be produced by UoSAT and AMSAT-NA and made available to other amateurs.

from Jeff Ward, GØ/K8KA @ GB3UP.UK.EU
via CompuServe's HamNet

TANDY COLOR COMPUTER PACKET-RADIO TERMINAL EMULATION SOFTWARE AVAILABLE

CoCoPACT/CoPACT3 are two full-featured terminal programs designed for amateur digital communications using the Tandy TRS-80 Color Computer 1, 2 or 3 and a TNC or multimode controller. The software features split-screen operation with received data displayed in the upper screen and local keyboard data displayed in the lower screen. Special handling of TNC control codes, stream/channel switches and other TNC functions are provided to simplify control of the TNC. The programs include a 40-kbyte QSO buffer and ten user-defineable macro keys. A built-in editor can be used to create and edit incoming and outgoing data off-line.

While CoCoPACT is intended for all Color Computers, CoPACT3 is intended for the Color Computer model 3 only and features 80-column display, an additional 24-kbyte transmit buffer, and a selectable 2400-baud serial-port data rate. The programs are available on disk or tape from Monty W. Haley, WJ5W, Rt 1, Box 210-B, Evening Shade, AR 72532 for $21.95 postpaid (for both programs).

WØRLI MAILBOX VERSION 11.5 AVAILABLE

WØRLI Mailbox, Version 11.5, a PBBS for IBM PC and compatible computers is available for downloading from CompuServe's HamNet data library 9 (DL9), N1EDF's telephone BBS (508-949-3590), Pleasant Valley Phone BBS (508-688-1348), VE3GYQ's telephone BBS (519-660-1442), or is available on disk from TAPR (PO Box 12925, Tucson, AZ 85732). (File name FS1105.EXE is the fast upgrade for those who already have Version 11.4, while file name MB1105.EXE is the full-blown version.)

SOUTHWEST OHIO DIGITAL SYMPOSIUM: CALL FOR PAPERS

A preliminary call for papers for the 4th Annual Southwest Ohio Digital Symposium has been announced. The symposium will be on January 20, 1990 at the Middletown Campus of Miami University in Middletown, Ohio. At present, there is no set agenda nor time frame. Preliminary ideas, generated from feedback from last year's event include:

1. A much-expanded session (probably a concurrent separate session) on how to get started in packet radio.
2. Networking - the next steps.
3. SYSOPs' discussion group.
4. MicroSat and other topics of interest concerning satellites.
5. Alternatives to TNCs for handling node functions: G8BPQ switch, TexNet experience, next generation, etc.
6. Super fast networking.
7. New PBBS software.
8. Duplex LANS, and
9. The TAPR packetRADIO.

The symposium is a cooperative effort hosted by the Engineering Technology Department of Miami University, the Middletown DIAL Twisters (Dial Radio Club), the Ohio Packet Council, and the Cincinnati Buckeye Netters.

Please send ideas to:

Hank Greeb, N8XX @ KC8TW
6580 Dry Ridge Rd
Cincinnati, OH 45252

from Hank Greeb, N8XX
via CompuServe's HamNet

US PACKET-RADIO STATISTICS

The following represents the number of PBBSs and digipeaters in the United States as of November 1, according to the statistics maintained by Doug Bennett, K4NGC. Send any changes to K4NGC @ K4NGC.

State	PBBS	Digipeater	Total	US Percent
Alabama	31	35	66	2.02%
Alaska	8	20	28	0.86%
Arizona	40	24	64	1.96%
Arkansas	14	21	35	1.07%
California	169	146	315	9.63%
Colorado	49	70	119	3.64%
Connecticut	22	24	46	1.41%
Delaware	4	3	7	0.21%
District of Columbia	0	0	0	0.00%
Florida	99	94	193	5.90%
Georgia	31	28	59	1.80%
Guam	0	0	0	0.00%
Hawaii	11	10	21	0.64%
Idaho	7	7	14	0.43%
Illinois	46	67	113	3.45%
Indiana	56	58	114	3.49%
Iowa	24	18	42	1.28%
Kansas	23	11	34	1.04%
Kentucky	22	42	64	1.96%
Louisiana	19	4	23	0.70%
Maine	23	21	44	1.35%
Maryland	84	69	153	4.68%
Massachusetts	41	46	87	2.66%
Michigan	50	31	81	2.48%
Minnesota	18	25	43	1.31%
Mississippi	12	9	21	0.64%
Missouri	26	44	70	2.14%
Montana	16	21	37	1.13%
Nebraska	12	14	26	0.79%
Nevada	3	14	17	0.52%
New Hampshire	17	25	42	1.28%
New Jersey	79	48	127	3.88%
New Mexico	19	13	32	0.98%
New York	113	92	205	6.27%
North Carolina	23	26	49	1.50%
North Dakota	7	5	12	0.37%
Ohio	74	59	133	4.07%
Oklahoma	18	27	45	1.38%
Oregon	14	13	27	0.83%
Pennsylvania	70	49	119	3.64%
Puerto Rico	0	2	2	0.06%
Rhode Island	5	3	8	0.24%
South Carolina	21	11	32	0.98%
South Dakota	6	6	12	0.37%
Tennessee	28	19	47	1.44%
Texas	64	32	96	2.93%
Utah	10	22	32	0.98%
Vermont	10	7	17	0.52%
Virginia	51	76	127	3.88%
Virgin Islands	0	0	0	0.00%
Washington	33	20	53	1.62%
West Virginia	11	14	25	0.76%
Wisconsin	35	22	57	1.74%
Wyoming	13	16	29	0.89%
Total	1686	1584	3271	100.00%

PACKET-RADIO OPERATIONS DURING THE SAN FRANCISCO EARTHQUAKE: LESSONS LEARNED, SUGGESTED IMPROVEMENTS

Lew Jenkins, N6VV, is a member of the Northern California Packet Association, which is composed of an extensive packet-radio network made up of hilltop node locations and over 30 PBBSs spread from Redding in northern California to Kern County in the central part of the state.

As one of the PBBS SYSOPs for the network, Lew was involved in handling heavy amounts of health and welfare traffic generated immediately after the October earthquake in the San Francisco Bay area. After the dust had settled a bit, Lew wrote down his thoughts about the performance of the packet-radio network and lessons learned from the emergency created by the earthquake. Here is a summary of his observations and recommendations:

- o Have a network backup plan in place in anticipation of emergency situations.
- o Packet radio is well designed to handle high volumes of health and welfare traffic during emergencies. Tactical communication, however, is better handled by voice.
- o Because of networking possibilities, packet-radio networks can respond better than any other form of amateur communications to changes in the emergency situations. Members of the Northern California Packet Association were able to completely reroute traffic throughout the entire system in less than three hours.
- o There is a need for an emergency bulletin designator, supported, but used only in extreme emergencies.
- o Every amateur using PBBSs should be familiar with packet-radio NTS procedures. Circumstances generated by the earthquake required as many hams as possible with packet-radio capability to become involved with handling traffic.
- o All NTS traffic should be ZIP code routed. A major problem was incorrectly addressed or unaddressed traffic requiring manual intervention.

Lew feels that the San Francisco earthquake was "the first great test for this new packet-radio technology" and, in general, passed the test with flying colors. As of October 21, approximately 3000 health and welfare messages were posted on the N6VV PBBS and 2200 of them had been delivered. At one point, all of the messages were carried through the network on 220.90 MHz.

from *The ARRL Letter*

NAVAL ACADEMY PACKET-RADIO LINK IN OPERATION

For those who would like to forward packet-radio messages to midshipmen at the Naval Academy in Annapolis, the K1LNJ PBBS in Severn, Maryland, will pass the messages to the midshipmen's computer in their Bancroft Hall room.

To start the service, advise the midshipman to open a "mailbox" with CMS by calling up FISHNET using their existing ProComm software. At the ACU> prompt, enter ALT-P. Select option 5 (9600 and E-7-1) to change the protocol and save the changes. Return to the ACU> prompt and type C FISHNET. Once connected, type C CMS and log on as NEW. In a couple days the midshipman's ID will be validated and thereafter, he or she can post and receive messages.

To send a packet-radio message to the midshipman, address the message as NTS to USNA @ K1LNJ. Be sure to include the midshipman's "Username" on the CMS link (usually the first letter of the first name and the first six letters of the last name). Midshipmen should address their return messages to "BHOWARD" and include the recipient's call sign and @ PBBS. Any questions should be addressed to K1LNJ @ K1LNJ (available from the DCA node stack in the Virginia-Maryland-DC area), or for long haul (HF), via K1LNJ @ N4QQ or K1LNJ @ W3IWI.

from Bill Howard, K1LNJ

HOW TO USE A WHITE PAGES SERVER

The WA1IIE.ME BBS is now a White-Pages Cache-Server. It stores (and forwards) information about stations, their home PBBSs, etc. The following commands are used by the server:

I CALL Query the local database for all information concerning a call sign. For example: I N1HAM.

I@ BBS List users at home PBBS. Trailing * may be used as a wild card. For example: I@ W9ZRZ or I@ HB*

IA List all users.

IC List all users that have logged in.

IL List local users of this mailbox.

IZ ZIP List users at a ZIP code. Trailing * may be used as a wild card. For example: IZ 950*

To get information concerning a call sign, etc, you send a personal message from your home PBBS as follows:

SP REQWP @ WA1IIE.ME.USA

Subject: Leave blank

Message: Your request goes here, for example, to get the "address" of WA1ABC, the stations at ZIP code 0498*, and the stations whose home PBBS is K1RQG, your request would be as follows:

```
I WA1ABC
IZ 0498*
 I@ K1RQG
 <CTRL-Z>
```

As with all servers, the PBBS will create a message containing the requested information and send it to you at the PBBS where your request was initiated. If you have any questions, contact WA1IIE @ WA1IIE.ME.USA.

from Chuck Sullivan, WA1IIE

"TEMPORARY" PACKET-RADIO ADDRESS

Until further notice, your *Gateway* editor's packet-radio mail-forwarding address is WA1LOU @ N1DCS. Also, mail to your *Gateway* editor may be sent via the TCP/IP packet-radio network to IP address 44.88.0.14.

GATEWAY CONTRIBUTIONS

Submissions for publication in *Gateway* are welcome. You may submit material via the US mail to:

Gateway
Stan Horzepa, WA1LOU
75 Kreger Drive
Wolcott, CT 06716-2702

or electronically, via CompuServe to user ID *70645,247* or via Internet to *70645.247@compuserve.com*. Via telephone, your editor can be reached on evenings and weekends at 203-879-1348 and he can switch a modem on line to receive text at 300, 1200 or 2400 bit/s. (Personal messages may be sent to your *Gateway* editor via packet radio to *WA1LOU @ N1DCS* or IP address *44.88.0.14*.)

The deadline for each issue of *Gateway* is the Saturday preceding the issue date (which is typically a Friday).

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Stan Horzepa, WA1LOU
Editor

Larry E. Price, W4RA
President

David Sumner, K1ZZ
Executive Vice President

Sal Prado
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